

Appl. No. 10/022,350  
Amendment dated: February 19, 2004  
Reply to OA of: November 20, 2003

### REMARKS

Applicant has amended the claims to more particularly define the invention taking into consideration the outstanding Official Action and to overcome all of the outstanding rejections. Claim 1 has been amended to recite that the flexible flails are rotatable at relatively high speeds to provide a whip-like cutting action to tear open the plastic bags. Basis for this claim limitation can be found at page 3, lines 2-9 of Applicant's specification. The reference to Young's Modulus has been also removed from the claim in view of the definition of the flexibility of the flails now present in the claims.

Claims 2, 3 and 4 have been deleted from the application and new claim 17 to a method has been added. This method corresponds to claim 1 and is fully supported by Applicant's specification as would be appreciated by one of ordinary skill in the art to which the invention pertains.

The cancellation of claim 4 overcomes the objection to this claim.

The rejection of claims 1-4 and 6 under 35 U.S.C. 102(b) as being anticipated by Dongieux, Jr. has been carefully considered but is most respectfully traversed.

Applicant wishes to direct the Examiner's attention to MPEP § 2131 which states that to anticipate a claim, the reference must teach every element of the claim.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed.Cir. 1990).

The present invention is directed to a bag splitting apparatus comprising a rotatable flail structure having a plurality of flexible flails. The flails are rotatable at relatively high speeds to provide a whip-like cutting action. Typically, the flails weigh

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less than 10 g, and preferably, less than 5 g. Thus, when rotated at high speeds (e.g. at least 11 m/s), the flails stiffen and provide a cutting action that tears open the bags whilst causing minimal damage to the contents of the bags.

The Examiner is of the view that the subject matter of claims 1-4 and 6 is anticipated by '371 (Dongieux). Applicant submits that this rejection does not apply to amended claim 1 and the claims dependent thereon. This is because the '371 reference does not disclose the use of flexible flails that are rotatable to provide a whip-like cutting action which is a claim limitation which cannot be ignored. Although the Dongieux device comprises a plurality of flexible fingers, these fingers are incapable of providing a whip-like cutting action. Instead, the fingers of the Dongieux device are formed of hollow wound springs that are rotated to delump a pasty mass (see column 2, lines 43 to 46, and column 3, lines 5 to 7). The lumps are removed by the impact of the flails on the lumps. This hammering action relies on the use of flails having a relatively high mass. Such flails are incapable of providing a whip-like cutting action. In fact, the Dongieux reference recites that, after the delumping step, conventional pelletizers and/or granulators are required to cut the pasty mass into shape (see column 3, lines 12 to 18). This highlights the fact that the flails of the Dongieux device are incapable of performing a cutting action and cannot be said to anticipate the rejected claims.

The Dongieux device is preferably rotated at a speed in the range of 30 to 120 rpm (see column 2, lines 63 to 65). At this speed of rotation, the fingers of the Dongieux device flex to remove lumps from the pasty mass. The flexing action also prevents the pasty mass from sticking to the fingers. However, there is no disclosure in the reference of rotating the device to provide a whip-like cutting action that is capable of tearing open bags.

The Examiner is of the view that, with proper gearing and a powerful enough motor, one could rotate the flail structures hundreds of times per millisecond. The Examiner, however, has not provided any evidence to support this assertion. As mentioned above, the Dongieux device relies on the use of relatively heavy flails, which

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delump material by a hammering action. It is not apparent that such flails could be rotated at high speeds, as such speeds would require a high degree of rotational balance to avoid overloading and failing of the bearings. Moreover, the viscosity of the pasty mass would put additional strain on the device. Accordingly, it is most respectfully requested that this rejection be withdrawn.

The rejection of claims 1, 5 and 6 under 35 U.S.C. 102 as being anticipated by the patent to Andela has been carefully considered but is most respectfully traversed. This reference does not meet all of the claim limitations and is not an anticipation of these claims.

The purpose of the Andela device is to pulverize glass. As illustrated in Figure 7, the Andela device comprises a plurality of multi-link chains that are rotated about a shaft to break glass by a hitting or hammering action. As described in column 3, lines 35 to 38, the glass is bounced back and forth between the flails causing it to break up into smaller fragments. As can be seen from Figures 10 and 11, a heavy end portion 108 is provided to improve the hammering action. This contrasts sharply with the flails of the present invention that are designed to split open bags, whilst causing minimal damage to the bags' contents. There is no mention or suggestion in the Andela document that the flail structure may be rotated at high speeds to provide this whip-like cutting action. In fact, given the relatively high mass of the hammers of the Andela device, it is not apparent how the Andela device may be used to provide a whip-like cutting action.

The Examiner notes that the flails are encased in plastic. This is to reduce wear and prevent direct contact between the flail's flexible connection points and the glass particles (see column 3, lines 8 to 10). This encasing step does not provide the flail structure of the Andela device with a whip-like cutting action as required by claim 1.

The Examiner is also of the view that, with proper gearing and a powerful enough motor, one could rotate the flail structure of the Andela reference hundreds of times per millisecond. As explained in relation to the Dongieux reference, the Examiner has not provided any evidence to support his assertion. In fact, the Andela reference is silent

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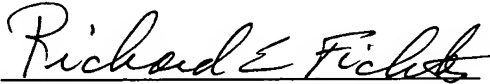
on specific speeds of rotation. Accordingly, it is most respectfully requested that this rejection be withdrawn.

In view of the foregoing, Applicants submit that claim 1 is novel over the Andela reference. The dependent claims are also considered to be novel at least by virtue of their dependency on claim 1. As regards the new independent method claim, it is submitted that this claim is novel over the Dongieux and Andela references for the reasons outlined above. Moreover, it should be noted that there is no mention or suggestion in the prior art of splitting open bags containing solid waste using the Andela and Dongieux devices. Accordingly, it is most respectfully that all of the claims in the application are in full compliance with 35 USC 112 and are clearly patentable over the references of record.

In view of the above comments and further amendments to the claims, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested.

Respectfully submitted,

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